

REMARKS/ARGUMENTS

Entry of the above amendment and favorable reconsideration by the Examiner are respectfully solicited.

Claim 1 has been rejected under 35 U.S.C. § 112, second paragraph as being indefinite. In particular, the Examiner considers to be indefinite the recitation “the secondary carpet backing increasing at least one of dimensional stability and delamination resistance of a carpet with the secondary carpet backing.” To overcome this ground of rejection, the objectionable recitation has been cancelled from Claim 1. It is submitted that Claim 1 should now be free from indefiniteness and in compliance with 35 U.S.C. § 112, second paragraph.

Claim 1 has also been amended to emphasize the single layer construction of the carpet backing.

Claims 10-20, previously withdrawn from consideration, have also been cancelled, without prejudice to pursuing them in a divisional application.

The foregoing amendments do not raise any new issues and overcome an outstanding rejection. Accordingly, entry of this amendment is clearly appropriate.

Claims 1-6 stand rejected under 35 U.S.C. § 103(a) as being obvious over Smith et al. U.S. Patent No. 6,060,145. The Examiner notes that the Smith et al. reference employs a “conventional secondary backing” for the base of its inventive modified secondary backing. From this, the Examiner concludes that secondary backings of the claimed weave construction were “conventional” in the art or known prior to the Smith et al. invention. The Examiner’s conclusion in this regard is not supported by the facts. Reconsideration and withdrawal of this ground of rejection are respectfully solicited.

Applicant respectfully submits that the Examiner has failed to properly establish a *prima facie* case of obviousness based upon the Smith et al. reference. To establish a *prima facie* case of obviousness, it must be shown that the prior art references must teach or suggest all of the claim limitations. It also must be shown that there is some suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill in the art, to modify the reference to arrive at the claimed invention. It is respectfully submitted that these requirements have not been met and, therefore, a *prima facie* case of obviousness has not been

established. Only after a case of *prima facie* obviousness has been established is it necessary for the applicant to present evidence of unexpected results or other secondary considerations evidencing nonobviousness.

Contrary to what it alleged by the Examiner, the specific weave construction defined in Claim 1 is not “conventional” in the art, nor is it taught in the Smith et al. reference. The secondary carpet backing as defined in Claim 1 consists essentially of a woven fabric having:

- a flat weave construction
- of warp tapes and multi-filament picks
- an average of about 12 to about 24 warp tapes per inch providing
- 50 to about 100% theoretical warp coverage
- but less than full effective warp coverage
- an average of about 10 to about 20 multi-filament picks per inch
- the flat weave construction comprising a plain weave
- the fabric having a weight of about 1.5 to about 7 osy and
- an average air permeability of at least about 250 ft³/min./ft².

The “conventional secondary backing” referred to by Smith et al. is indicated by the reference character 15 in FIG. 1 and is used as a component in producing the inventive modified secondary backing illustrated in FIG. 6 and discussed in greater detail in the patent specification. As seen from Table 1, the scrim fabric 15 is of an *open weave construction* with a very high air permeability. This open weave construction is important to the inventive modified secondary backing of the Smith et al invention.

As described at column 3, line 64 to column 14, line 1, the secondary scrim fabric 15 that is utilized in the Smith et al. invention is a leno weave fabric comprising 16 ends/inch in the warp direction by 5 picks/inch in the weft direction. A fabric of this construction does not meet the requirements of Claim 1 as outlined in the bullet points above. In particular, the Smith et al. patent does not teach that this fabric is a flat weave construction of warp tapes and multi-filament picks. Nor does Smith et al. contain any teaching of the weave construction should provide 50 to

about 100% theoretical warp coverage but less than full effective warp coverage. Nor does Smith et al. teach having an average of about 10 to about 20 multi-filament picks per inch.

In fact, a commercial secondary backing of the type described in the Smith et al. patent is identified in Table 2 of the present application. Note in Table 2 the fabric sample identified as "3870". It is a 16 by 5 leno weave backing having a basis weight of 2.1 osy. This compares closely to the fabric described by Smith et al. As seen from Table 2 of the present application, it has a warp coverage of less than 40 percent. This is significantly less than the theoretical warp coverage specified in Claim 1. It also has a pick count of only 5/inch, which is well below the 10-20 specified in Claim 1.

Table 2 also describes the properties of other "commercial secondary backing" samples. ActionBac® Style 3808, an 18 x 13 leno weave backing also had a warp coverage significantly less than that specified in Claim 1. the sample designated as XX, a discontinued 24 x 15 plain weave fabric, had a warp coverage in excess of the upper limit permitted by claim 1 and an air flow well below that specified in the claim. Likewise, the sample designated as YY, a needled 24 x 15 plain weave fabric had a warp coverage in excess of that specified by claim 1 and an air permeability well below the claim 1 requirements. Thus, all of the so-called "commercial secondary backing" samples are outside of the parameters specified in claim 1. Hence, the Examiner's conclusion that the weave construction claimed by applicant is "conventional" in the art or known prior to the Smith et al. invention is inconsistent with the clear teachings of the Smith et al. patent.

Example 19 of the present application compares a similar commercial secondary backing (ActionBac® style 3865 which differed only in color from the style 3870 of Table 2) with a secondary carpet backing of a weave construction in accordance with the present invention. As is seen from Example 19 paragraph [0067] and as is confirmed by the Gardner declaration, paragraphs 15 and 16, secondary carpet backing made in accordance with the parameters of the claimed invention yield unexpected results such as an increase in dimensional stability or delamination resistance.

Table 2 also describes properties of a number of other secondary weave constructions that are not conventional and not part of the prior art, but which were produced specifically for

the purpose of illustrating the significance of the weave construction parameters defined by claim 1. Note that fabric samples A, B, and C all had theoretical warp coverage above 100% and air permeability values below 100. Those permeabilities are not suited to efficient binder cure rates. These examples demonstrate that the particular combination of weave parameters defined in claim 1 are important and significant in achieving the improved results described and illustrated in the present patent application.

Applicant has identified a particular weave construction, defined by the combination of parameters set forth in the claims, that yields improved results relative to the prior commercially available secondary backing constructions. This combination of weave construction parameters is not described or taught by the Smith et al. patent. Furthermore, this particular combination of weave construction parameters would not be intuitive or obvious from the prior art. Nothing in the Smith et al. patent or within the general knowledge of the person of ordinary skill in the art would direct or incite someone to select, out of all of the possible properties that could define a weave construction, the specific combination as recited in claim 1 of (1) a flat weave construction, (2) the use of warp tapes and multifilament picks, (3) the density or spacing of the warp tapes, (4) the theoretical warp coverage, (5) the density or spacing of the picks, (6) use of a plain weave of a single layer, (7) fabric basis weight, and (8) average air permeability. Furthermore, nothing either in the Smith et al. patent or within the general knowledge of the person of ordinary skill in the art would direct someone to utilize the specific combination of *values* of these parameters as set forth in the claims. Claims 2 to 6 define more specific parameters of the weave construction, such as tape width, pick denier, etc. These also are not taught by or obvious from the prior art.

In responding to Applicant's previous arguments, the Examiner has noted that Smith et al. also teaches other fabrics having different counts and/or weaves, including plain weave fabrics for example. However, as seen from the previous discussion of Table 2 of the present invention, other fabrics having different counts and/or weaves, including plain weave fabrics, do not necessarily have the weave construction defined by the combination of parameters set forth in claim 1. The commercial secondary backings analyzed in Table 2 do not meet the claim parameters. Nor do fabric samples A, B, C, D, E, F, GI and H of Table 2.

Furthermore, the Smith et al. teachings at column 14, lines 13-22 are quite relevant and instructive. Smith notes that while other weave types can be used, "what is important to the practice of the invention is that the scrim fabric and fiber batt become integrated to form the modified scrim 20." The only specific example given in the Smith et al. patent is an open weave fabric with a pick count of 5/inch. Thus, following the Smith et al. teachings, persons of ordinary skill in the art would be instructed to use a scrim fabric with an *open weave construction*. As noted earlier, the sample used by Smith has a theoretical warp coverage lower than that specified in the claims and a pick count well below the claimed range. Additionally, the Smith et al. reference specifically teaches a *multi-layer* backing construction. Consequently, the teachings in the Smith et al. reference actually *teach away* from producing a single layer fabric with 50-100% theoretical warp coverage, but less than full effective warp coverage and a pick count of 10-20 per inch.

From the foregoing, it should be evident that the Smith et al. patent not only fails to teach or suggest all of the claim limitations recited in Claim 1; additionally, it fails to provide any suggestion or motivation to modify the reference to arrive at the claimed invention. Moreover, the Smith et al. explicit teachings of the need for having multi-layer fabric with an *open weave construction* would lead a person of ordinary skill in the art away from the specific combination of fabric construction parameters that are set forth in independent Claim 1.

Accordingly, the Smith et al. reference cannot properly form the basis for an obviousness rejection.

Reconsideration by the Examiner, withdrawal of the rejection and formal notification of the allowability of Claims 1-6 as now presented are solicited.

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It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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